

CONSTRAINTS AND TRADE-OFFS IN THE CLIMATE IMPACT OF FISHERIES

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OUTLINE

- Project participants
- Context on LCA of fish products
- Can we feed the world with wild fish?
- OBJECTIVE 1: Constraints to fish supply
- Do ecolabels and climate impact conflict?
- OBJECTIVE 2: Trade-offs
- Project outcome

Project team



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LCA OF FISH PRODUCTS

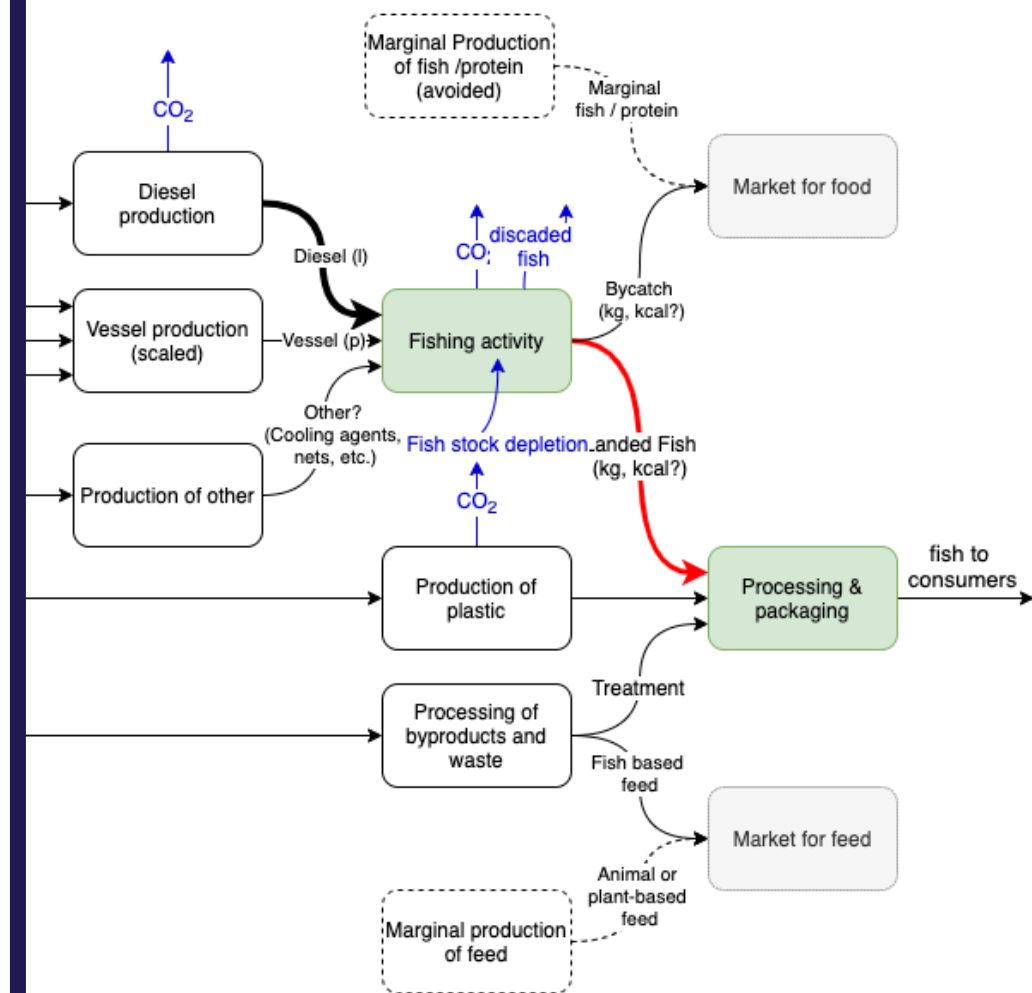
- ▶ Consumers demand sustainable food products
- ▶ Producers rely on LCA to evaluate and communicate the sustainability of products
- ▶ Increasingly for fish too (EPD, PEF)



Credit: <https://www.futureoffish.org/>

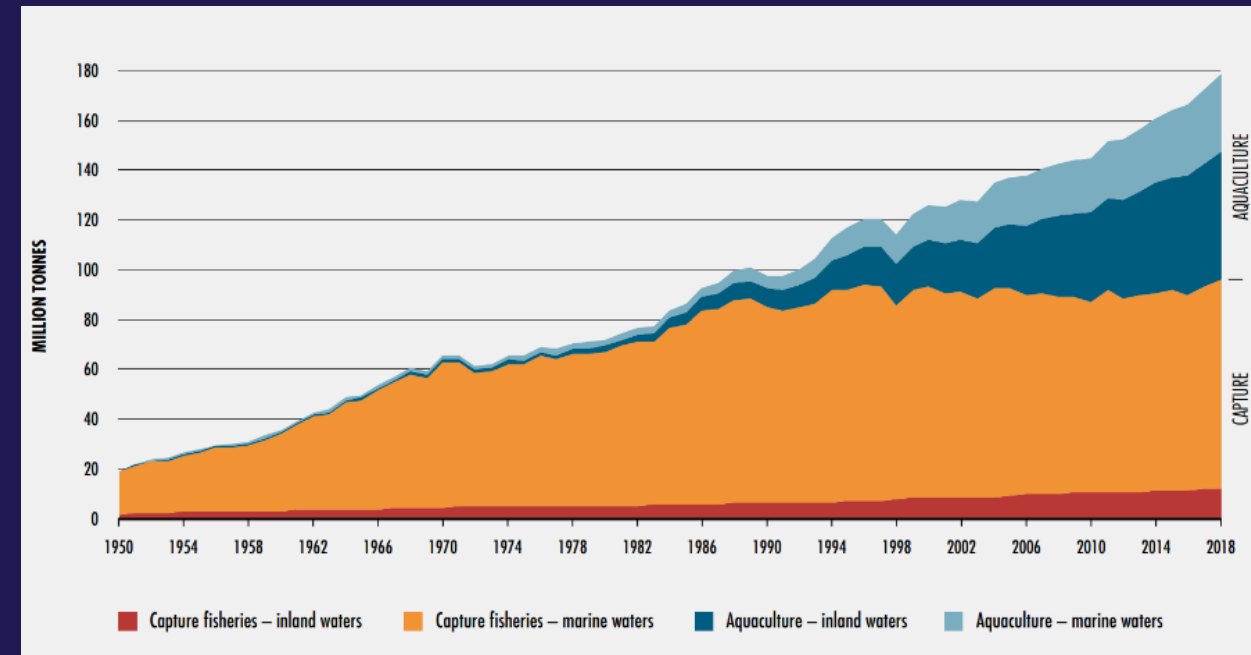
LCA IN A NUTSHELL

- ▶ Account for material and energy inputs over a life cycle
- ▶ High data requirements
- ▶ Uncertainty and variability
- ▶ Different questions require different models



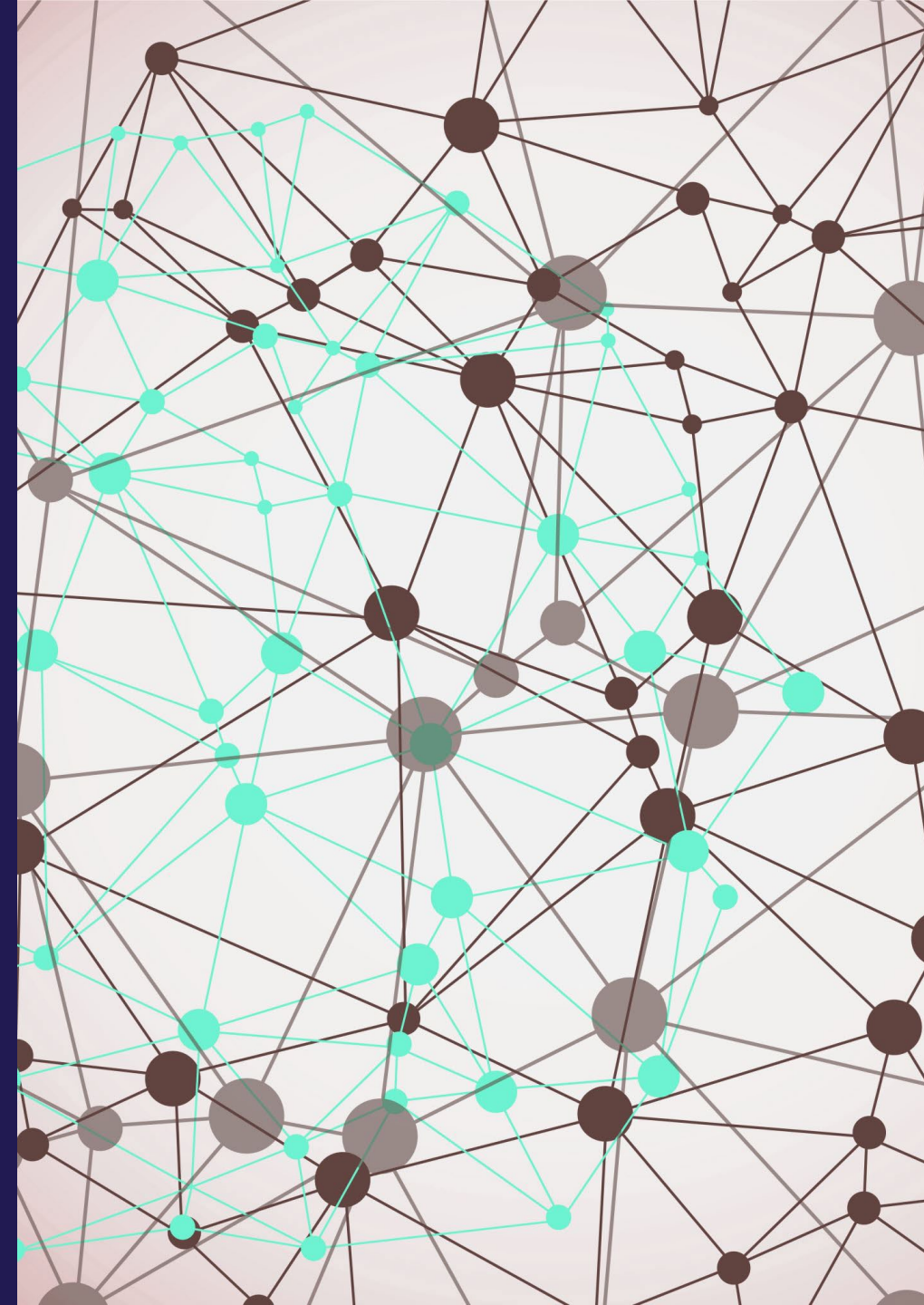
CAN WE FEED THE WORLD WITH WILD CATCH?

- ▶ Marine capture fisheries have reached a “**constraint**” (plateau)
- ▶ Increasing consumption of fish per capita [FAO, 2020]
- ▶ Who (which suppliers) can respond to such an increasing demand?
- ▶ What is **the impact** of such increase?



NEED TO TRACE IMPACTS FORWARD IN TIME

- ▶ Current LCA approaches are **retrospective** (“can we trace back the impact of fishing this product?”)
- ▶ This project investigates the use **prospective** approach (“Can we trace forward the impact of increasing demand for this product?”)



CHALLENGES IN USING A PROSPECTIVE APPROACH

- ▶ Measuring when an activity is constrained and its effects on shifting the demand
- ▶ Difficult to establish solid cause-effect
- ▶ Substitution issues
- ▶ Results sensitive to modelling choices





PROJECT OBJECTIVE 1:

Constraints to supply and climate impact

- Develop methods that assess the climate impacts of fisheries accounting for constraints in supply
- Calculating the impact of increasing the demand for specific seafood products





SUSTAINABLE PRACTICES AND LABELLING

- ▶ Fisheries management focus on sustainable fishing practices [Ruiz-Salmón et al., 2020)]
- ▶ Eco-labels of fish products have gained market share and increased the sustainability of fisheries
- ▶ Certification schemes do not include climate impacts indicators





DO SUSTAINABLE FISHING AND CLIMATE IMPACT CONFLICT?

- ▶ Sustainable fishing may induce savings in fuel if stocks are healthy
- ▶ At the same time species-selective gear might require more fuel
- ▶ Are there trade-off between the objective of preserving stocks and the objective of reducing climate impacts?



PROJECT OBJECTIVE 2:

Climate vs marine environment labelling

- Analyze sustainable practices and eco-labels requirements, are they climate friendly?
- Identify the trade-offs between sustainable fisheries practices and reduction of carbon emissions





EXPECTED OUTCOME

- ▶ Produce evidence-based LCA model
- ▶ Identify climate-friendly practices, gears, labels
- ▶ Contribute to the green transition of fisheries to inform current fisheries policies, practice, and labelling
- ▶ Advise consumption in the direction of climate change mitigation





THANK YOU

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